SONAR WQ01

Ref. A: AN/BQQ-5 MIP SO-212 **Ref. I:** Towed Array LOS INSURVINST 4730.2E

Ref. B: AN/BSY-1 MIP 4630 Ref. J: AN/BQH-7 MIP

 Ref. C: AN/BQR-22A MIP SO-105
 Ref. K: ON/144 MIP SO-267

 Ref. D: AN/BQS-15 MIP SO-569
 Ref. L: AN/WLR-9 MIP SO-205

 Ref. E: AN/BQN-17 MIP SO-572
 Ref. M: AN/BQN-13A MIP SO-104

 Ref. F: AN/BQA-8 MIP SO-191
 Ref. N: AN/BQS-15 MIP SO-569

Ref. G: AN/WQC-2A MIP SO-097 Ref. O: AN/BQQ-5 FL MATRIX

Ref. H: AN/BQH-1 MIP SO-034 **Ref. P:** AN/BQQ-10

Items in RED apply to all. Items in BLUE apply to BQQ-5. Items in GREEN apply to BSY-1. Items in ORANGE apply to ARCI.

A. PREUNDERWAY / UNDERWAY (BQQ-5: 1-22; BSY-1: 1-3 & 23-32; ARCI: 1-3 & 33-41)

1	· · · · · · · · · · · · · · · · · · ·			% Complete				
	ITEMS TO BE REVIEWED AND/OR TESTED	Ref.	MRC/ OP	25	50	75	100	
	Review ESL/CSMP for equipment status and outstanding requisitions.							
	Review latest CSA/CSRR/PAT/WSR outstanding deficiency documentation.							
	3. Visually examine the SONAR equipment and look for intactness, accessibility, and operability.							
	4. Run FL's. Document TNUM and system impact.	0						
	5. Perform BQQ-5 Operability test, confidence tests.	A	M-7R					
	6. Inspect inverse compensator plate on BQQ-5	A	Q-5					
	7. Operate all modes of passive broadband and compare all contact bearings to radar and periscope bearings	A						
	8. Compare navigational inputs for course and speed between AN.BQQ-5, BQH-5(if installed), Fire Control, and online navigation system.	A						
	9. Check power reduction interlock clears at appropriate depth.	A						
	10. Monitor BQH-1 during dive to TD and compare depth to ship's depth.	Н						
	11. Monitor WLR-9 throughout test period for alerts and compare with data received on passive broadband sonar	L						
	12. Conduct Rapid Operability test on WLR-9	L	R-4D					
	13. Demonstrate ability to pass information from all sensors and to AUX sonar system and conduct performance test	К						
	14. Launch an SSXBT using ship's OP's. Transmit data to fire control and save copy of data	J						
	15. Conduct BQS-15 Performance test, Operability test	D	R-1W					
	16. Monitor all BQA-8 hydrophones and bands for proper operation.	F						
	17. Perform BQA-8 operability test	F	Q-3					
	18. Perform BQR-22A functional test	С	R-4					

		1	% Complete			
ITEMS TO BE REVIEWED AND/OR TESTED	Ref.	MRC/ OP	25	50	75	100
19. Monitor displays for various BQQ-5 inputs of Sphere II and OMNI I channel through the patch panel	С					
20. Deploy TB-16 array at Test Depth per SSM OI						
21. Deploy TB-23 array at Test Depth per SSM OI						
22. Verify proper operation of all towed array displays and various modes.						
23. Deploy and retrieve both towed arrays at test depth using appropriate OP guidelines. Power up array using BSY-1 and check of proper operation.	В	R-25				
24. Check for proper operation of all passive modes of AN/BSY-1	В	R-23 R-27				
25. Test navigational inputs to AN/BSY-1	В					
26. Check for Local Sound Velocity using AN/BSY-1	В	R-29				
27. Monitor WLR-9 throughout test period for alerts and compare with data received on passive broadband sonar	В					
28. Conduct Rapid Operability test on WLR-9	В	R-32D / R-7D				
29. Launch an SSXBT using ship's OP's. Transmit data to fire control and save copy of data	В	A-4				
30. Test interface between patch panel and all applicable equipment.	В	R-4				
31. Test playback/record capabilities of installed recording system.						
32. Perform BQR-22A functional test	С	R-4				
33. ARCI Verify P/S redundancy	Р	M-1R / M-2R				
34. ARCI Battery Capacity Test	Р	S-1R				
35. ARCI Operability Test (TI-02)	Р	R-9				
36. ARCI Towed Array operational verification	Р	R-5 / R-20				
37. ARCI Workstation to Ethernet/GiGE failover	Р	R-17 / R-31				
38. ARCI Towed Array Operational Verification	P	R-2 / R-4 / R-5 / R-7 / R-8 / R-9 / R-15 / R-20 / R-21 / R-22				
39. ARCI Sphere Operational Verification	Р	R-27 / R-32				
40. ARCI Test SVM Operability	Р	R-12				
41. ARCI Inspect All Array Dental Charts	Р					

B. UNDERWAY/TRANSMIT ACTIVE SONAR (BQQ-5: 1-11; BSY-1: 12-18; ARCI: 19-24)

		_	% Complete			е
ITEMS TO BE REVIEWED AND/OR TESTED	Ref.	MRC Legacy/ ARCI	25	50	75	100
1. Test BQQ-5 active system in all modes and sub- modes of operation at all power levels	A					
2. Compare active ranges and bearings to radar and/or periscope bearings	A					
3. Test Operate BQN-17 sounding set	E	R-2				
4. Monitor BQN-17 and BQS-15 during outbound transit and compare depth readings. Readings should be within 2 feet of each other.	E D					
5. Monitor BQN-17 while passing 100FM curve and verify system continues to track (ship's speed should be no greater than 5kts.)	E					
6. Operate IAW ship's operating procedures and monitor throughout test period and compare soundings to navigation charts	E					
7. While at TD energize fwd BQN-13A and monitor on WLR-9.	M					
8. While at TD energize aft BQN-13A and monitor on WLR-9.	M					
9. Test Operate BQS-15 Bottom Sounder	D	R-2W				
10. Test all BQS-15 active modes while ship goes to PD	D	R-2W				
11. Transmit on all WQC-2 transducers monitoring each transmission through the WLR-9. Insure BQQ-5 is muted during transmission time.	G					
12. While at TD energize fwd and aft BQN-13A and monitor on WLR-9.	М					
13. Test all modes of BSY-1 bottom sounder forward and aft	В	R-11 / R-14				
14. Test all modes of BSY-1 top sounder	В	R-11 / R-14				
15. Test using all modes of BSY-1 MF Active	В	R-26 / R-11				
16. Test using all modes of BSY-1 HF Active	В	R-26 / R-10 R-28 /				
17. Test using all modes of BSY-1 UWC. Monitor on GPD-111 or WLR-9	В	R-6 / R-16				
18. Test all BSY-1 active transducers/arrays using 1021 and 1035 FL tests	В	S-29R				
19. ARCI MF Active Operability Test	Р	R-11 / R-28				
20. ARCI Test Active Subsystems	Р	2W-7R				
21. ARCI Test Sphere and HF Active Transmission Units	P	Q-6R / Q-11R R-10 /				
22. ARCI Sail Array Signal Conditioner	Р	S-12R / S-27R				
23. ARCI HF Projector Transmit status	Р	S-15R /				
24. ARCI MPC Bottomsounding Operability	Р	R-14				

C. INPORT (BQQ-5: 1-10; BSY-1: 3,4,6; ARCI: 3,4,6 & 11-12)

					% Co	mplete	9
\checkmark	ITEMS TO BE REVIEWED AND/OR TESTED	Ref.	MRC/ OP	25	50	75	100
	Measure BQQ-5 one-point grounds	Α	S-9R				
	Measure BQH-1 transducer and cable insulation resistance	Н	S-2R				
	3. Measure LF hydrophone insulation and resistance and capacitance on WLR-9	L	S-1R				
	4. Measure HF hydrophone insulation and resistance and capacitance on WLR-9	L	S-2R				
	5. Measure BQN-17 transducer cable insulation	E	Q-2R				
	6. Measure Transducer insulation resistance on BQN-13A	M	S-1R				
	7. Measure BQS-15 insulation resistance and continuity of projectors AZ/DE drive motors and 400hz reference to unit 3	D	S-1				
	8. Measure BQA-8 hydrophone DC resistance and insulation	F	Q-5				
	9. Measure WQC-2 Transducer impedance	G	S-1R				
	10. Measure WQC-2 Insulation resistance of transducer cable	G	S-1R				
	11. Measure Sound Velocity Transducers insulation and resistance	P	S-15R				
	12. Measure NM Hydrophones insulation and resistance	Р	S-11R				
	 Measure HF hydrophone insulation and resistance and capacitance on WLR-9 Measure BQN-17 transducer cable insulation Measure Transducer insulation resistance on BQN-13A Measure BQS-15 insulation resistance and continuity of projectors AZ/DE drive motors and 400hz reference to unit 3 Measure BQA-8 hydrophone DC resistance and insulation Measure WQC-2 Transducer impedance Measure WQC-2 Insulation resistance of transducer cable Measure Sound Velocity Transducers insulation and resistance 	E M D D F G G P	Q-2R S-1R S-1 Q-5 S-1R S-1R S-1R				

D. OPEN AND INSPECT (BQQ-5: 1, 2, 4; BSY-1: 1-3; ARCI: 1,2,5)

				% Co	mplete	•
ITEMS TO BE REVIEWED AND/OR TESTED	Ref.	MRC/ OP	25	50	75	100
1. One CDC						
2. WLR-9 unit 1						
3. SDC in CSES and Middle Level						
4. Compensators unit 7						
5. SIU Unit 4010						
6.						

AN/BQQ-5 FL Matrix

Notes:

Inverse Comp Alignment (FL 6306) tolerance is + 0.20° of displayed requirement for AZ and + 0.10° D/E. Compensator Alignment (FL 6307) tolerance is + 0.02° of displayed requirement for AZ and D/E. BDI BAL is a prerequisite to this FL.

(ALL) 2901 2901 M-4R All units affected; No operational modes available- PM/FL Test Tgt. 1,3,124 4160 4160 S-6R All units affected; No operational modes available- Xducer Path Test 111/112 3101 3101 3101 3401 3301 M-4R All units affected; No operational modes available- Act/Pas F/E/C Gain/Noise SA Aducer Impedance & mitroever lerlay All units affected; No operational modes available- Pas F/E/C Gain/Noise SA Aducer Impedance & mitroever lerlay All units affected; No operational modes available- Pas F/E/C All Modes Available Act F/E/C All Modes Available All units affected; No operational modes available- Test LCA's All units affected; No operational modes available- Test LCA's All units affected; No operational modes available- BDI / ATF Circuits All units affected; No operational modes available- BDI / ATF Circuits All units affected; No operational modes available- BDI / ATF Circuits All units affected; No operational modes available- All dummy load test All units affected; No operational modes available- All dummy load test All units affected; No operational modes available- Ctrl scan function All units affected; No operational modes available- Information All units affected; No operational modes available- Information All units affected; No operational modes available- Tel-ASP interface No PDR Data Available All units affected; No operational modes available- Tel-ASP interface No PDR Data Available All units affected; No operational modes available- Tel-ASP interface No PDR Data Available All units affected; No operational modes available- Tel-ASP interface No PDR Data Available All units affected; No operational modes available- Tel-ASP interface No PDR Data Available All units affected; No operational modes available- Tel-ASP interface No PDR Data Available No PDR Data Available No PDR Data Available No PDR	Units	BQQ-5D	BQQ-5E	MRC	AFFECT ON OPERATION
1,3,124 2400 2901 M-4R All units affected; No operational modes available- PM/FL Test Tgt.					
1,3,124 4160	1,3,124			M-4R	All units affected; No operational modes available- PM/FL Test Tgt.
111/112 3100 3101 M-AR All units affected: No operational modes available- Act/Pas F/E/C Gain/Noise SA xducer Impedance & xmit/receive relay All units affected: No operational modes available- Pas F/E/C All units affected: No operational modes available- Pas F/E/C All units affected: No operational modes available- Act F/E/C All units affected: No operational modes available- Act F/E/C All units affected: No operational modes available- Act F/E/C All units affected: No operational modes available- Test LCA's All units affected: No operational modes available- BDI / ATF Circuits All units affected: No operational modes available- BDI / ATF Circuits All units affected: No operational modes available- Phase shifting Gain/Noise SA xducer Impedance & xmit/receive relay No PDR Data Available All units affected: No operational modes available- All dummy load test All units affected: No operational modes available- All dummy load test All units affected: No operational modes available- All dummy load test All units affected: No operational modes available- Ctrl scan function All units affected: No operational modes available- WLR-9 interface All units affected: No operational modes available- WLR-9 interface All units affected: No operational modes available- WLR-9 interface All units affected: No operational modes available- WLR-9 interface All units affected: No operational modes available- WLR-9 interface All units affected: No operational modes available- WLR-9 interface All units affected: No operational modes available- WLR-9 interface All units affected: No operational modes available- WLR-9 interface All units affected: No operational modes available- WLR-9 interface No operational modes available- WLR-9 interface No operational modes available- WLR-9 interface No operational modes available- MLR-9 interface No operational modes available- WLR-9 interface No operational modes available- WLR-9 interface No operational modes available- WLR-9 i			4160		
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126(U) 3502					·
126(L) 3502		3501			
7/118 3801					All Modes Available
M-13R	, ,				All units affected; No operational modes available- Test LCA's
1 to 4	7/118				
1 to 4					
120	1 to 4				•
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168 5330 5301 M-12R Units 5,7,122,123&131 Affected;Loss of analog trkr data 169 5350 5301 M-12R Units 5,7,122,123&131 Affected;Loss of analog trkr data 171 5370 5301 M-12R Units 5,7,122,123&131 Affected;Loss of analog trkr data 171 5370 5301 M-12R Units 5,7,122,123&131 Affected;Loss of analog trkr data 172 5370 5301 M-12R Units affected; No operational modes available- Passive Beamformer 173 5501 5501 M-13R All units affected; No operational modes available- Passive Beamformer 173 5510 M-13R All units affected; No operational modes available- SCI/power/timing 174 5801 5801 M-2R All units affected; No operational modes available- Active Beamformer 175 5901 5901 M-12R Units 5,7,122,123&131 Affected;Loss of analog trkr data 177 5370 M-12R All units affected; No operational modes available- Complete TRI-ASP 178 6150 6150 M-13R All units affected; No operational modes available- Complete TRI-ASP 179 No Towed Array or Hull Array Data 170 6307(3) 6307(3) M-4R All units affected; No operational modes available- Unit 6 syncro align. 170 6601 M-12R Units 5,7,122,123&131 Affected;Loss of analog trkr data 179 All units affected; No operational modes available- Unit 6 syncro align. 170 All units affected; No operational modes available- Unit 7 syncro align. 171 6307(3) M-4R All units affected; No operational modes available- Unit 7 syncro align. 171 6307(3) M-4R All units affected; No operational modes available- Unit 7 syncro align. 171 6307(3) M-4R All units affected; No operational modes available- Unit 7 syncro align. 171 6307(3) M-4R All units affected; No operational modes available- Unit 7 syncro align. 172 6601 6601 M-12R Units 5,7,122,123&131 Affected;Loss of analog trkr data		5310	5301	M-12R	
5370 5301 M-12R Units 5,7,122,123&131 Affected;Loss of analog trkr data 5401 5401 M-2R All units affected; No operational modes available- Passive Beamformer 5501 5501 M-2R All units affected; No operational modes available- Passive Beamformer 5510 M-13R All units affected; No operational modes available- SCI/power/timing 114 5801 5801 M-2R All units affected; No operational modes available- SCI/power/timing 114 5801 5801 M-2R All units affected; No operational modes available- Active Beamformer 131 6050 6050 M-12R Units 5,7,122,123&131 Affected;Loss of analog trkr data 131 6050 6150 M-13R All units affected; No operational modes available- Complete TRI-ASP 131 6150 6201 M-5R No Towed Array or Hull Array Data 142 6601 6601 M-12R Units affected; No operational modes available- Unit 6 syncro align. 143 6307(3) 6307(3) M-4R All units affected; No operational modes available- Unit 7 syncro align. 144 Value of the data of	168	5330	5301	M-12R	Units 5,7,122,123&131 Affected;Loss of analog trkr data
11554015401M-2RAll units affected; No operational modes available- Passive Processor11355015501M-2RAll units affected; No operational modes available- Passive Beamformer113/13155105510M-13RAll units affected; No operational modes available- SCI/power/timing11657015701M-2RAll units affected; No operational modes available- SCI/power/timing11458015801M-2RAll units affected; No operational modes available- Active Beamformer559015901M-12RUnits 5,7,122,123&131 Affected; Loss of analog trkr data1316050M-13RAll units affected; No operational modes available- Complete TRI-ASP13161506150M-13RAll units affected; No operational modes available- Complete TRI-ASP81162016201M-5RNo Towed Array or Hull Array Data6/1186306(2)M-4RAll units affected; No operational modes available- Unit 6 syncro align.7/1186307(3)6307(3)M-4RAll units affected; No operational modes available- Unit 7 syncro align.1226601M-12RUnits 5,7,122,123&131 Affected; Loss of analog trkr data	169	5350	5301	M-12R	Units 5,7,122,123&131 Affected;Loss of analog trkr data
5501 5501 M-2R All units affected; No operational modes available- Passive Beamformer All units affected; No operational modes available- 113/131 interface All units affected; No operational modes available- SCI/power/timing All units affected; No operational modes available- Active Beamformer Solution	171	5370	5301	M-12R	Units 5,7,122,123&131 Affected;Loss of analog trkr data
113/131 5510 5510 M-13R All units affected; No operational modes available- 113/131 interface 116 5701 5701 M-2R All units affected; No operational modes available- SCI/power/timing 114 5801 5801 M-2R All units affected; No operational modes available- Active Beamformer 136 5901 5901 M-12R Units 5,7,122,123&131 Affected; Loss of analog trkr data 137 6050 6050 M-13R All units affected; No operational modes available- Complete TRI-ASP 138 6150 6150 M-13R All units affected; No operational modes available- Complete TRI-ASP 139 6150 M-130	115	5401	5401	M-2R	All units affected; No operational modes available- Passive Processor
11657015701M-2RAll units affected; No operational modes available- SCI/power/timing11458015801M-2RAll units affected; No operational modes available- Active Beamformer559015901M-12RUnits 5,7,122,123&131 Affected; Loss of analog trkr data13160506050M-13RAll units affected; No operational modes available- Complete TRI-ASP13161506150M-13RAll units affected; No operational modes available- Complete TRI-ASP81162016201M-5RNo Towed Array or Hull Array Data6/1186306(2)6306(2)M-4RAll units affected; No operational modes available- Unit 6 syncro align.7/1186307(3)6307(3)M-4RAll units affected; No operational modes available- Unit 7 syncro align.1226601M-12RUnits 5,7,122,123&131 Affected; Loss of analog trkr data	113	5501	5501	M-2R	All units affected; No operational modes available- Passive Beamformer
5801 5801 M-2R MI units affected; No operational modes available- Active Beamformer Units 5,7,122,123&131 Affected;Loss of analog trkr data M-131 6050 6050 M-13R M-13R All units affected; No operational modes available- Complete TRI-ASP M-131 6150 6150 M-13R M-13R All units affected; No operational modes available- Complete TRI-ASP M-131 6201 6201 M-5R No Towed Array or Hull Array Data M-13R M-13R All units affected; No operational modes available- Unit 6 syncro align. M-13R M-13R All units affected; No operational modes available- Unit 6 syncro align. M-13R M-13R M-13R M-13R All units affected; No operational modes available- Unit 6 syncro align. M-13R M-13	113/131	5510	5510	M-13R	All units affected; No operational modes available- 113/131 interface
5801 5801 M-2R MI units affected; No operational modes available- Active Beamformer 5 5901 5901 M-12R Units 5,7,122,123&131 Affected;Loss of analog trkr data 6050 6050 M-13R All units affected; No operational modes available- Complete TRI-ASP 6150 6150 M-13R All units affected; No operational modes available- Complete TRI-ASP 811 6201 6201 M-5R No Towed Array or Hull Array Data 6/118 6306(2) M-4R All units affected; No operational modes available- Unit 6 syncro align. 7/118 6307(3) 6307(3) M-4R All units affected; No operational modes available- Unit 7 syncro align. 122 6601 6601 M-12R Units 5,7,122,123&131 Affected;Loss of analog trkr data			5701	M-2R	
5 5901 5901 M-12R Units 5,7,122,123&131 Affected;Loss of analog trkr data 6050 6050 M-13R All units affected; No operational modes available- Complete TRI-ASP 811 6201 6201 M-5R M-5R No Towed Array or Hull Array Data 6/118 6306(2) 6306(2) M-4R All units affected; No operational modes available- Unit 6 syncro align. 6/118 6307(3) 6307(3) M-4R All units affected; No operational modes available- Unit 7 syncro align. 6/118 6306(2) M-4R All units affected; No operational modes available- Unit 7 syncro align. 6/118 6307(3) 6307(3) M-4R All units affected; No operational modes available- Unit 7 syncro align. 6/118 6307(3) M-4R All units affected; No operational modes available- Unit 7 syncro align. 6/118 6307(3) M-4R All units affected; No operational modes available- Unit 7 syncro align. 6/118 6307(3) M-4R All units affected; No operational modes available- Unit 7 syncro align. 6/118 6307(3) M-4R All units affected; No operational modes available- Unit 7 syncro align. 6/118 6307(3) M-4R All units affected; No operational modes available- Unit 7 syncro align. 6/118 6307(3) M-4R All units affected; No operational modes available- Unit 7 syncro align. 6/118 6307(3) M-4R All units affected; No operational modes available- Unit 7 syncro align. 6/118 6307(3) M-4R All units affected; No operational modes available- Unit 7 syncro align.	114	5801	5801	M-2R	
131 6050 6050 M-13R All units affected; No operational modes available- Complete TRI-ASP 131 6150 6150 M-13R All units affected; No operational modes available- Complete TRI-ASP 131 6201 6201 M-5R No Towed Array or Hull Array Data 131 6201 6306(2) M-4R All units affected; No operational modes available- Unit 6 syncro align. 131 6050 M-13R All units affected; No operational modes available- Unit 6 syncro align. 131 6050 M-13R All units affected; No operational modes available- Unit 7 syncro align. 131 6050 M-13R All units affected; No operational modes available- Complete TRI-ASP 131 M-5R All units affected; No operational modes available- Unit 6 syncro align. 132 6601 M-12R Units 5,7,122,123&131 Affected; Loss of analog trkr data	5	5901	5901	M-12R	Units 5,7,122,123&131 Affected;Loss of analog trkr data
131 6150 6201 6201 M-13R All units affected; No operational modes available- Complete TRI-ASP 811 6201 6201 M-5R No Towed Array or Hull Array Data 6/118 6306(2) M-4R All units affected; No operational modes available- Unit 6 syncro align. 7/118 6307(3) 6307(3) M-4R All units affected; No operational modes available- Unit 7 syncro align. 122 6601 M-12R Units 5,7,122,123&131 Affected;Loss of analog trkr data	131	6050	6050	M-13R	
811 6201 6201 M-5R No Towed Array or Hull Array Data 6/118 6306(2) M-4R All units affected; No operational modes available- Unit 6 syncro align. 7/118 6307(3) 6307(3) M-4R All units affected; No operational modes available- Unit 7 syncro align. 122 6601 M-12R Units 5,7,122,123&131 Affected;Loss of analog trkr data				M-13R	
6/118 6306(2) 6306(2) M-4R All units affected; No operational modes available- Unit 6 syncro align. 7/118 6307(3) 6307(3) M-4R All units affected; No operational modes available- Unit 7 syncro align. 122 6601 M-12R Units 5,7,122,123&131 Affected; Loss of analog trkr data	811	6201	6201	M-5R	
7/118 6307(3) 6307(3) M-4R All units affected; No operational modes available- Unit 7 syncro align. 122 6601 M-12R Units 5,7,122,123&131 Affected;Loss of analog trkr data	6/118	6306(2)			All units affected; No operational modes available- Unit 6 syncro align.
122 6601 M-12R Units 5,7,122,123&131 Affected;Loss of analog trkr data	7/118	6307(3)	6307(3)	M-4R	All units affected; No operational modes available- Unit 7 syncro align.
	122	6301	6301	M-2R	All units affected; No operational modes available- 6,7& 118 interface